CHAPTER 4

EXISTING RAIL LINE, RAIL YARDS, AND SIDINGS

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CHAPTER 4

EXISTING RAIL LINE, RAIL YARDS, AND SIDINGS

This chapter discusses SEA's additional analysis in response to comments on the Draft EIS's evaluation of the potential impacts of rehabilitating DM&E's existing rail line (Section 4.1), construction of rail yards (Section 4.2), and construction of new sidings (Section 4.3).

In its Application to the Board, DM&E identified two primary purposes for its proposed PRB Expansion Project. According to DM&E, the first purpose would be "to create a third major rail carrier with independent access to the 11 PRB coal mines" that would offer "competitive advantages and operational efficiencies not available on any railroad presently serving the PRB and providing new, more-efficient, lower-cost routings for many PRB coal movements to Midwestern utilities." DM&E's second purpose for the proposed project, as articulated in its Application, is "to transform DM&E's existing operations so that it can offer existing and prospective shippers of non-coal commodities vastly improved service, new marketing opportunities, and more efficient and safer operations." To accomplish these purposes, DM&E proposed the construction of new rail facilities including new rail line track, sidings, and rail yards, as well as rehabilitation of its existing rail line across South Dakota and Minnesota (Figure 4-1). SEA's evaluation of the proposed new rail line extension track and alternatives is discussed in Chapter 3.

SEA received a broad range of comments regarding the potential environmental impacts of the rehabilitation of DM&E's existing rail line and the construction and operation of project-related rail yards. These comments ranged from those requiring simple clarification of SEA's statements in the Draft EIS to comments requesting that SEA conduct additional analysis for the Final EIS. In the following sections of this chapter, SEA provides additional analysis and more extensive discussion on comments that required it. This chapter also presents SEA's recommendations for a preferred alternative for each project component, if the Board ultimately decides to approve the project. Appendix B includes SEA's summaries and responses to all of the substantive comments on the Draft EIS.

4.1 EXISTING RAIL LINE

Chapter 1 of the Draft EIS contained a detailed discussion of the condition of DM&E's existing rail line, including speed and weight restrictions and DM&E's safety record. To provide a more efficient route for coal transport and a more efficient and safe transportation system for its existing shippers (as stated by DM&E in its project purpose and need noted previously), DM&E stated that it must rehabilitate its existing rail line across South Dakota and Minnesota, approximately 600 miles of rail line. DM&E indicated that such system-wide improvements would only be possible with revenue generated through the extension of its existing rail line to connect with coal mines in the PRB.

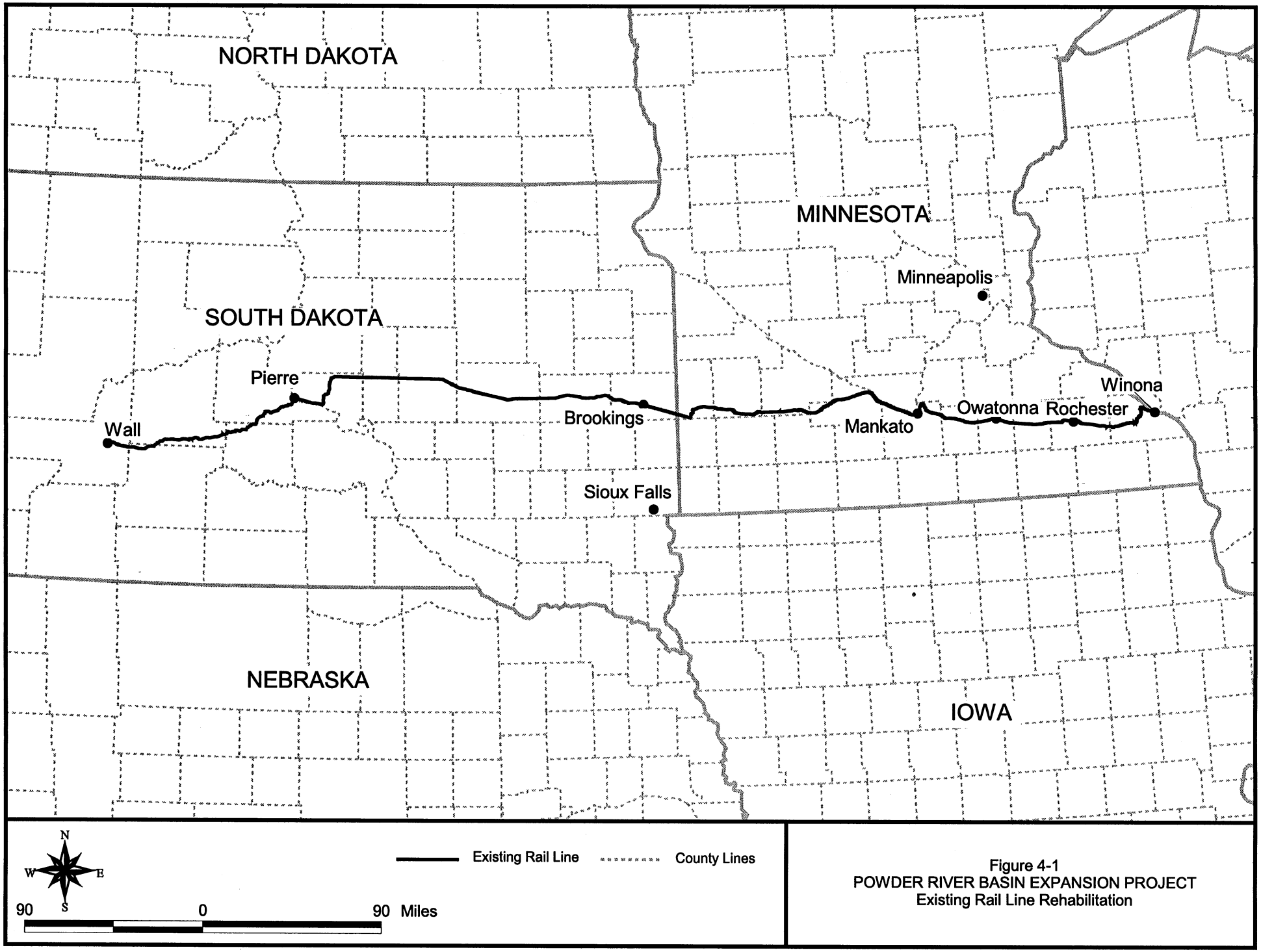

Figure 4-1
POWDER RIVER BASIN EXPANSION PROJECT
Existing Rail Line Rehabilitation

As discussed in the Draft EIS, the Board has the authority to license new rail lines accessing new markets (49 U.S.C. 10901). Railroads are not required to seek or receive the Board's authority to rehabilitate or improve their existing systems.[1] When DM&E submitted its Application to the Board in February of 1998, it sought the Board's approval to construct and operate a new rail line extending from its existing rail line near Wall, South Dakota into the PRB. DM&E's Application did not seek the Board's approval of DM&E's plans to rehabilitate its existing rail line in South Dakota and Minnesota because railroads can repair, replace, or rehabilitate their existing rail lines without seeking Board authority.

In addition to its Application pending before the Board, however, DM&E is seeking other permits and approvals from the Federal cooperating agencies. One of these agencies, the U.S. Army Corps of Engineers (COE), will consider an Application from DM&E to dredge and fill waters of the United States and adjacent wetlands as part of the reconstruction of existing rail infrastructure. Therefore, the COE requested that SEA include an analysis of the potential environmental impacts of activities associated with DM&E's upgrading or rehabilitating its existing system so that the COE will have the information it needs for its permitting decisions. Normally, the Board would not examine these impacts. However, to prepare a document that satisfies the regulatory requirements of all the cooperating agencies, including the COE, this EIS has assessed the potential environmental impacts of the rail line rehabilitation.

In assessing the reconstruction of DM&E's existing system in the Draft EIS, SEA considered both Action and No-Action Alternatives. The No-Action Alternative would result from the Board's denial of DM&E's Application to construct and operate a new rail line extension into the PRB to transport coal. Under this alternative, DM&E could rehabilitate and reconstruct its existing rail line, but no new construction outside the existing rail right-of-way would be approved. DM&E has stated that it is unlikely that it could undertake the overall rehabilitation of its existing rail line without the expansion into the PRB. Moreover, as noted in the Draft EIS and in the Board's decision issued December 10, 1998, the service DM&E currently offers to its shippers would probably continue to deteriorate, or even cease if it does not rebuild its existing rail line. Therefore, SEA preliminarily determined that rather than simply maintaining the status quo, the No-Action Alternative could result in potentially significant impacts to some environmental resources, such as safety and socioeconomics. Furthermore, under the No-Action Alternative, the Board would be unable to impose any mitigation to minimize these impacts.

[1] The Board does consider the environmental impacts of increased operations over an existing line if the increase would not occur but for a project that requires Board approval.

The Action Alternative for rehabilitation of the existing rail line that SEA considered in the Draft EIS would result from the Board's grant of final authority to construct and operate a new rail line extension into the PRB. This alternative would involve the total reconstruction and rehabilitation of DM&E's existing rail line across southern Minnesota and central South Dakota to transport unit coal trains. Despite the fact that Board approval is not required for rehabilitation, DM&E states that the Board's decision on DM&E's proposed expansion will effectively control whether the existing system will be rehabilitated.

SEA determined in the Draft EIS that rehabilitation of the existing rail line and operation of up to 34 unit coal trains per day could have significant impacts on wetlands, noise sensitive and vibration sensitive receptors, water and cultural resources, safety (increasing highway/rail grade crossing accidents but also improving rail safety for hazardous materials transport), and transportation (causing emergency-vehicle delays, but improving rail operations). However, unlike the No-Action Alternative, if the Board approves the Action Alternative, it may impose mitigation to minimize potential impacts. SEA also determined that the Action Alternative would have significant positive economic impacts from increased employment and railroad-paid taxes.

As presented in Chapter 6 of the Draft EIS, SEA determined that the No-Action Alternative would not allow DM&E to satisfy any of its identified purposes and needs for this project. Under the No-Action Alternative, DM&E would not construct new rail line into the PRB, providing additional competition for transport of the region's coal. Moreover, since DM&E has stated that it requires revenues from a new line into the PRB to make it financially viable, DM&E would not likely rehabilitate its existing system for improved and continued rail service to existing shippers if the proposed expansion is denied. In contrast, an upgraded, rehabilitated rail line could result in substantial safety benefits to DM&E's existing rail operations and could, in turn, enhance safety in the communities and surrounding rural areas in which DM&E operates.

An increase in rail operations — specifically, to a maximum of 34 unit coal trains — could counter some of the substantial safety improvements that might result from a totally upgraded DM&E rail line through Minnesota and eastern South Dakota. But because some potential safety impacts could be mitigated, SEA indicated in the Draft EIS that, based on information present at issuance of the Draft EIS and the Board's ability to impose appropriate mitigation, the Action Alternative — expansion and rehabilitation of the existing rail line — is environmentally preferred.

SEA received numerous comments on potential impacts of reconstructing and operating up to 34 unit coal trains along the existing rail line, predominantly addressing the existing rail line for which communities proposed bypasses (Pierre and Brookings, South Dakota; and Rochester,

Minnesota) or DM&E proposed connecting track (Mankato, Minnesota). SEA reviewed and responded to these comments in this Final EIS at Appendix B and, for those requiring additional analysis, in Chapters 5 through 9. However, some comments, particularly those submitted by EPA and state agencies in South Dakota and Minnesota, were applicable to the entire rail line, not just portions of the existing rail line in or near Pierre, Brookings, Rochester, and Mankato. Those comments involved these topics:

- Grade-crossing safety
- Evaluation of state-listed threatened and endangered species
- Impacts on impaired surface waters under the Clean Water Act - Section 303(d)
- Potential increases in rail traffic due to proposed recreational excursion trains
- Structural damage due to project-related increases in ground vibration and
- Methodology for identifying potential environmental justice communities

The following sections discuss SEA's additional analysis to address these comments.

4.1.1 SEA's RECOMMENDATION

SEA conducted an extensive analysis of the potential environmental impacts associated with rehabilitation of the existing DM&E rail line in the Draft EIS. In preparing this Final EIS, SEA reviewed the comments on its analysis in the Draft EIS and conducted additional analysis as appropriate. As a result, SEA has determined that the conclusions presented in the Draft EIS concerning rehabilitation of the existing rail line are still valid. SEA found that potential environmental impacts presented in the Draft EIS could be mitigated, or in the case of structural damage from increased vibration, were overstated in the Draft EIS. Therefore, because rehabilitation of the existing rail line would produce substantial safety improvements to rail operations and public safety at highway/rail grade crossings and since other impacts, including noise, could be reduced through mitigation, SEA prefers the Action Alternative, if the Board approves the proposed project. Chapter 12 presents SEA's recommended mitigation to address potential environmental impacts of the rail line rehabilitation.

4.1.2 SAFETY

SEA conducted an extensive evaluation of all public grade crossings along the existing DM&E rail line from Winona, Minnesota to Wall, South Dakota for the Draft EIS. This analysis determined the potential increase in accident frequency at each grade crossing, as discussed in detail in Appendix H of the Draft EIS. SEA's analysis considered the existing crossing warning

devices, proposed locations of new rail sidings, existing and project-related train speeds, and average number of vehicles per day (average daily traffic or ADT) using each crossing.

SEA categorized public grade crossings according to their existing accident frequencies. In South Dakota, grade crossings with a frequency of one or more accidents every 20 years were considered high frequency, or Category A crossings. In Minnesota, existing crossings were considered high frequency or Category A crossings if there was one or more accidents every eight years. Such frequencies would put a crossing on each state's list of the 50 highest accident frequencies for grade crossings. All other crossings were considered low frequency or Category B crossings. SEA determined that for Category A crossings, a predicted increase of one accident every 100 years would be significant. For Category B crossings, one additional accident every 20 years would be significant.

SEA indicated in Chapter 4 of the Draft EIS that increased levels of train traffic would result in significant increases in accident frequency at numerous grade crossings. In South Dakota, SEA's Draft EIS analysis identified significant impacts at eight grade crossings under the 20 million-annual-ton (MNT) level of operations, 7 additional grade crossings under the 50 MNT level, and 11 additional grade crossings under the 100 MNT level. In Minnesota, SEA determined (as discussed in Chapter 3 of the Draft EIS) that significant increases in accident frequency would occur at 3 grade crossings under the 20 MNT level of operations, 2 additional grade crossings under the 50 MNT level, and 10 additional grade crossings under the 100 MNT level.

After SEA issued the Draft EIS, DM&E submitted a voluntary grade crossing mitigation plan (Appendix D in this Final EIS) to address potential safety issues along the existing rail line. This proposed mitigation plan covers DM&E's entire rail line from Wall, South Dakota to Goodview, Minnesota. SEA determined that DM&E's plan would substantially improve the existing grade crossing devices along the existing line, including crossings determined to experience significant increases in accident frequency as a result of the increased rail traffic associated with the PRB Expansion Project. Table 4-1 offers an overview of the warning-device upgrades proposed as part of DM&E's proposed grade-crossing mitigation plan.

Table 4-1
Summary of Proposed Grade-Crossing Warning-Device Upgrades

Proposed Device Upgrade		Level of Operation		
From	**To**	**20 MNT**	**50 MNT**	**100 MNT**
No Crossing Protection	Crossbucks	2	0	0
Crossbucks	Crossbucks with Stop Signs	0	0	0
Crossbucks	Flashing Red Lights	9	5	8
Crossbucks	Flashing Red Lights and Gates	0	0	0
Crossbucks with Stop Signs	Flashing Red Lights	1	3	9
Crossbucks with Stop Signs	Flashing Red Lights and Gates	0	0	0
Flashing Red Lights	Flashing Red Lights and Gates	4	5	8
Total Upgrades		16	13	25

Generally, the plan includes the safety improvements identified in Table 4-1 using FRA's "PCAPS" method.[2] The proposed plan would also minimize potential increases in accident frequency that could result from increased rail traffic. Therefore, SEA has included in Chapter 12 a recommendation that DM&E's grade crossing mitigation plan be imposed as part of any project approval that would include rehabilitation of the existing DM&E rail line.

[2] Federal Railroad Administration, Personal Computer Accident Prediction System.

4.1.3 WILDLIFE

SEA obtained from the U.S. Fish and Wildlife Service (USFWS) information on the Federally-listed species that could be affected by the proposed project, including:

- Peregrine falcon (Minnesota)
- Topeka shiner (Minnesota and South Dakota)
- Minnesota dwarf trout lily (Minnesota)
- Higgin's eye pearly mussel (Minnesota)
- Winged maple leaf mussel (Minnesota)
- Karner blue butterfly (Minnesota)
- Prairie bush-clover (Minnesota)
- Leedy's roseroot (Minnesota)
- Western prairie fringed orchid (Minnesota)
- Bald eagle (Minnesota and South Dakota)
- Black-footed ferret (South Dakota)
- Piping plover (South Dakota)
- Whooping crane (South Dakota)
- Interior least tern (South Dakota)
- American burying beetle (South Dakota)
- Ute ladies' tresses orchid (South Dakota)
- Swift Fox (South Dakota)
- Sturgeon chub (South Dakota)
- Black-tailed prairie dog (South Dakota)

SEA prepared a Biological Assessment outlining the potential project effects to each of these species (See Appendix K of the Draft EIS and Appendix H of the Final EIS), and submitted it to the USFWS for review. USFWS reviewed the Biological Assessment and has prepared a Biological Opinion (Appendix H), which presents the USFWS position on the Biological Assessment and the potential impacts of the proposed project on Federally-listed threatened and endangered species. The Biological Opinion also provides mitigation measures to prevent or minimize the impacts of the proposed project to Federally-listed threatened and endangered species.

In addition to the above Federally-listed threatened, endangered or candidate species, SEA also identified a number of state-listed species in the Draft EIS. However, unless these species were also Federally-listed, they were not individually evaluated in the Draft EIS and are not required to be considered in the Biological Assessment prepared for the USFWS.

SEA received comments from the USFWS and various state agencies, including the Minnesota Department of Natural Resources (DNR), regarding the evaluation of threatened and endangered species in the Draft EIS. While the USFWS did not concur with SEA's conclusion that the proposed project would not adversely affect Federally-listed threatened and endangered species, it noted that project impacts could be minimized through appropriate mitigation. The USFWS also indicated that the Topeka shiner would be the only species potentially affected by the proposed rail line reconstruction, but SEA concluded that these effects would not be significant. In Chapter 12, SEA has included recommendations that DM&E be required to comply with mitigation methods included in the Biological Assessment and USFWS's Biological Opinion.

The Minnesota DNR and others questioned SEA's wildlife analysis in the Draft EIS. Comments were generally related to inadequate descriptions of migratory bird species found in the project area and inadequate descriptions of impacts on Minnesota State-listed species. Concerning migratory bird species, the Draft EIS discussed potential impacts on a variety of bird species, including waterfowl, shorebirds, songbirds, raptors, and mourning dove (considered an upland bird), all of which are migratory species. Therefore, SEA believes it has adequately evaluated the potential impacts on migratory birds in this EIS.

SEA also received comments noting that while state-listed threatened and endangered species were identified in the Draft EIS, the potential impacts of the proposed project to each species were not discussed in detail. NEPA requires Federal agencies to comply with Federal laws and statutes in their environmental reviews. There is no such requirement for state laws. Accordingly, SEA's analysis focused on the Federal Endangered Species Act of 1972, as amended, which provides protection to species Federally-listed as endangered (defined as in danger of becoming extinct throughout all or a significant portion of the species range) or Federally-threatened (defined as in danger of becoming endangered throughout all or a significant portion of the species range).

Often, a species may be uncommon in one state but common in another due to different habitat or climate. Recognizing that even uncommon species comprise an important part of a state's wildlife resources and natural history, many states have developed programs to identify and protect uncommon species within the state. Generally, any Federally-listed species would also be state-listed. However, in most cases, state-listed species do not meet the definition of Federally endangered or threatened, and are not protected under the Endangered Species Act.

Because state-listed species are not covered by the Federal statute, SEA is not required to specifically consider them as part of this EIS. The proposed rail line reconstruction project would have impacts to state-listed species similar to those described for other wildlife.

4.1.4 IMPAIRED WATERS

Comments also indicated that the project could potentially affect surface waters, identified for development of Total Maximum Daily Load (TMDL) levels, also known as impaired waters under the Clean Water Act, Section 303(d). TMDL is the amount of a pollutant that can be introduced into a water body and still have the body meet water quality levels for its beneficial use. SEA did not previously identify the impaired waters in the Draft EIS, and therefore discusses the potential impacts to impaired waters below.

As discussed in detail in Chapter 3, states classify their surface waters according to the beneficial use of each particular water body. Beneficial use classifications, from lowest water-quality use to best water-quality use include industrial, agricultural, wildlife and livestock, non-contact and contact recreation, warm water and cold water fishery, and domestic water supply.

Section 303(d) of the Clean Water Act requires states to:

(1) Identify waters of the state which are impaired, that is contain levels of pollutants at sufficient levels to adversely affect their designated beneficial use.
(2) Prioritize impaired waters for development of TMDL for those pollutants determined to be the cause of reduced water quality.
(3) Establish and adopt TMDLs for all identified impaired water bodies.

States must develop and update their lists of impaired waters every two years. The overall intent of Section 303(d) is to require states to identify and establish limits for pollutants affecting their waters, and work to restore polluted waters so that they are suitable for their beneficial uses.

Both South Dakota and Minnesota have developed lists of impaired waters under Section 303(d). After reviewing them, SEA identified several impaired water bodies in South Dakota and Minnesota crossed by the existing rail line and potentially affected by its reconstruction (see Table 4-2). Also included in this table are pollutants responsible for the impairment and SEA's determination of whether reconstruction and operation of the existing rail line would exacerbate the conditions affecting the classification as impaired.

Table 4-2
Impaired Water Bodies Crossed By Existing Rail Line

Water Body	State	Portion Impaired	Times Crossed	Pollutant(s) or Impairment	Adversely Affected by Proposed Project
Cottonwood River	MN	JD 30 - Minnesota River	2	Fecal Coliform	No
Garvin Brook	MN	All	11	Fecal Coliform, turbidity	Potential Temporary (for turbidity)
South Fork, Whitewater River	MN	All	10	Fecal Coliform	No
Bad River	SD	All	16	Accumulated sediment	Potential Temporary
Lake Sharpe	SD	Hughes County	1	Accumulated sediment	Potential Temporary
Lake Preston	SD	Kingsbury County	1	TSI*	Potential Temporary
Bad River	SD	Midland	2	Ammonia	No
Bad River	SD	Philip	0	Ammonia	No

* TSI is the Trophic State Index, used by South Dakota, which combines measurements of turbidity and concentrations of chlorophyll-*a* and total phosphorus as indicators of the eutrophic level of a water body.

As shown in Table 4-2, all the impaired water bodies crossed by the existing rail line in Minnesota are impaired by fecal coliform contamination from introduction of either human or animal fecal waste into a body of water. This can result from surface water runoff from a feedlot, dairy, or pasture, or from improperly functioning septic or sewer systems. Reconstruction and operation of the existing rail line would not affect the presence of fecal material along these waterways. Therefore, reconstruction of the proposed project would have no effect on the fecal coliform status of these water bodies.

Four of the water bodies crossed – Garvin Brook, Bad River, Lake Sharpe, and Lake Preston – are impaired by sediment in the waterway (dissolved or suspended sediment in the water, which results in turbidity). As discussed in the Draft EIS, reconstruction of bridges and culverts and earth-disturbing activities adjacent to waterways could result in increases in sedimentation and total suspended solids (TSS). Reconstruction activities could exacerbate existing problems with TSS and contribute to the impairment of these streams. However, implementation of appropriate erosion and sedimentation control measures such as those listed in Chapter 12, would minimize the additional sediment entering these waterways and limit impacts to the construction period. At completion of crossing construction and restoration of the river bank and right-of-way, as recommended in Chapter 12, there should be no more additions to TSS levels, and no further contribution to the impaired status of these water bodies. With implementation of appropriate erosion and sedimentation control practices, no long-term contribution to the impairment of these water bodies would be expected. Thus, no significant impacts on impaired waters are anticipated as a result of this project.

The two remaining impaired water bodies include parts of the Bad River near Midland and Philip that are impaired by ammonia concentrations. Waterway ammonia contamination can result from feedlot or dairy runoff, improperly functioning septic or sewer systems, or agricultural runoff containing high levels of nitrogenous fertilizer. As with fecal coliform, reconstruction of the existing rail line would have no effect on these activities. Therefore, rail line reconstruction would not contribute to impairment of these parts of the Bad River.

4.1.5 RECREATION

As SEA indicated in the Draft EIS, DM&E has stated that it intends to develop passenger excursion train service for tourism and recreational opportunities along the rail line. Excursions could include dinner trips, wildlife viewing, and transportation to and from the Black Hills region. DM&E indicated that no regular service suitable for commuters would be provided. Some commenters were concerned that the rail-traffic level SEA used in the Draft EIS to evaluate potential project impacts (8, 21, and 34 unit coal trains per day, plus 3 freight trains) would actually be greater due to the excursion trains. Commenters believed that the increased rail traffic would produce more noise, vibration, vehicle delay, air emissions, and accidents.

In its Application, DM&E indicated that it would consult local tourism and travel organizations to determine the demand for excursion train service, and therefore, it could not project the exact number of trains involved. DM&E did, however, roughly estimate about two trains per week, one westbound on Friday and one eastbound on Monday, although additional excursion trains might be added for special occasions. It is also likely that such service would be

seasonal and would involve only portions of the rail line, rather than travel from end to end of the rail line. Because the excursion train service is likely to be minimal, and definite plans for this service have not been developed, the potential environmental impacts from such service do not meet the "reasonably foreseeable" standard for NEPA analysis. Consequently, SEA has not included it in its EIS analysis.

4.1.6 VIBRATION

Several factors determine the amount of ground vibration caused by a passing train, including the speed, weight, and length of the train, the condition of the rail line, and the specific type of soil surrounding the rail bed. As discussed in the Draft EIS and elsewhere in this Final EIS, structures along the existing DM&E rail line would experience varying degrees of vibration and different levels of impact. The magnitude of ground vibration would not be increased by the potentially increased number of trains. However, it could be increased due to heavier, faster, and longer trains.

For the Draft EIS, SEA determined that ground vibration could be sufficient to cause structural damage to structures within 100 feet of the rail line. Additionally, structures between 101 and 200 feet could experience vibration levels sufficient to raise concerns for structural damage. SEA determined that structures between 201 and 400 feet would not be damaged by ground vibration but could experience disturbance and inconvenience (such as rattling windows). Tables 3.2-21 and 4.3-20 in the Draft EIS list the number of structures within these distances that would be potentially affected by project-related increases in vibration. SEA also indicated that project-related vibration could affect vibration-sensitive equipment such as MRIs, electron microscopes, and analytical balances. However, no such equipment was identified along the existing rail line except as discussed in Chapter 9 – Rochester, Minnesota.

Because a number of comments expressed concern about vibration damage to homes, SEA conducted field investigations in a residential area of Rochester, Minnesota, to determine the potential for project-related vibration to damage homes along the rail line (Appendix M). Peak acceleration and peak velocities measured at 50 feet from the track were within 0.01 g and 0.01 in/second. The results of these tests indicate that structures as close as 50 feet from the track would not be damaged by ground vibration from trains. Because DM&E's right-of-way is a minimum of 100 feet (50 feet on either side of the rail line centerline) except in small, scattered locations, SEA has not identified any structures within 50 feet of the existing rail line.

SEA also determined that while increased train weight and speed could increase vibration levels, installation of continuously welded rail, as proposed by DM&E, would likely reduce much of this increase, resulting in only a small increase, if any, in vibration. The modeling conducted as part of these studies indicates that vibration levels due to the proposed project are not expected to increase sufficiently, following rehabilitation and operation of the existing rail line, to damage residential structures. SEA has received no evidence that structures along the existing rail line have experienced damage due to past or current rail operations. Therefore, because vibration levels would only increase an insignificant amount, if at all, through operation of unit coal trains over continuously welded rail, SEA anticipates that the proposed project would not result in any structural damage to buildings along the existing rail line.

SEA acknowledges that structures, particularly residences along the rail line, would experience more frequent vibration disturbance due to an increased number of passing trains. Tests conducted on Seventh Avenue NW in Rochester, Minnesota, however, indicated that ground vibration levels at distances of 100 feet or more from the track would be within the criteria for residential impact, and would not cause structural damage. Any residences located on soft, deep soils may experience ground vibration higher than that measured on Seventh Avenue NW. These levels are also not anticipated to be sufficient to cause structural damage.

Ground vibration is not expected to be a concern for structures beyond 400 feet from the tracks. But even low levels of ground vibration may affect sensitive medical equipment such as MRIs beyond 400 feet from the rail line. No such equipment has been identified along the existing rail line, with the exception of that discussed in Chapter 9, as noted above.

4.1.7 ENVIRONMENTAL JUSTICE

SEA conducted extensive analysis to determine the potential for disproportionately high and adverse impacts to minority or low-income communities, collectively referred to as environmental justice communities, as discussed in detail in Appendix D of the Draft EIS. SEA used data from the U.S. Bureau of Census for the census block group (the smallest geographic unit for which both race and income information is managed) to determine if environmental justice communities might be located along the existing DM&E rail line. SEA's criteria in the Draft EIS for classification of a census block group as having environmental justice status were:

- At least one-half of the census block group has minority status.
- At least one-half of the census block group is of low-income status.

- The percentage of minority population for the census block group is at least 10 percentage points higher than the percentage for the entire county in which the census block group is located.
- The percentage of low-income population for the census block group is at least 10 percentage points higher than the percentage for the entire county in which the census block group is located.

Based on these criteria, SEA determined that the existing rail line crosses eight environmental justice communities, four each in South Dakota and Minnesota.[3] All these census block groups were identified as potential environmental justice communities because they meet the low-income criteria.

SEA received three categories of comments on the environmental justice analysis reported in the Draft EIS. The EPA commented on the methodology SEA had employed. Other commenters questioned SEA's use of 1990 instead of 2000 census data. Last, commenters took the position that ranchers and farmers should be considered low-income populations.

EPA's comments on the methodology SEA used primarily pertained to how SEA identified potential environmental justice communities. SEA's criteria, listed above, are consistent with those it has used in past cases. Early in the preparation of the Draft EIS, SEA consulted with EPA concerning the methodology for identifying potential environmental justice communities. In this case, two EPA administrative regions are involved, Region 5 for Minnesota and Region 8 for South Dakota and Wyoming. SEA determined that each region used different criteria for classification of a low-income community. Region 8 considered individuals at or below the national poverty level low-income, while Region 5 used 1.5 times the poverty level as the determinant for low-income status, believing that individuals above poverty level could still be struggling financially. While SEA requested guidance from EPA on a uniform standard for this project, EPA indicated no preference between the two criteria. Because SEA has used the poverty level in the past and Region 8, which covers the majority of the project area, also uses the poverty level, SEA considered its use appropriate as the indicator of low-income status.

In comments on the Draft EIS environmental justice methodology, EPA acknowledged the different criteria applied by Region 5 and Region 8 to identify low-income communities. EPA also concurred that a single criterion should be used to identify low-income populations. Because Region 5's criteria would be more inclusive and provide a more conservative analysis, EPA

[3] The Draft EIS identified nine potential environmental-justice communities along the existing rail line, five of which are located in Pierre, South Dakota and are discussed in Chapter 5 of this Final EIS.

recommended that SEA use income levels at and below 1.5 times the poverty level as low-income. In view of EPA's recommendation, SEA has conducted additional analysis, as discussed later in this section, using Region 5's low-income criteria.

Additionally, EPA recommended that SEA use state percentages for minority and low-income populations rather than county percentages, which may present a relatively homogeneous population not characteristic of the state as a whole because counties are much smaller areas. EPA also recommended that SEA compare the census block group percentages for minority and low-income populations to 1.5 times the state percentages for these groups. Classification of a census block group as either minority or low-income is based on its percentage of minority and low-income population being equal to or greater than 1.5 times the applicable state percentage. SEA did another environmental justice analysis based on EPA's recommendations, as discussed in detail in Appendix N, and discusses its results later in this section.

SEA received numerous comments from agencies (including EPA), communities, and citizens questioning why SEA had used 1990 rather than 2000 census data. Commenters stated that 1990 census data was out-of-date and no longer a valid representation of population characteristics. Additionally, some commenters indicated that various communities along the rail line had more recent census data. When SEA released the Draft EIS in September, 2000, the 2000 census was still underway, and no new data was available during final preparation of the Draft EIS. During printing and distribution of the Draft EIS, the Bureau of Census began to make available preliminary results from the 2000 census, generally at the state or county level. SEA's environmental justice analysis, however, requires data at the census block group level, the smallest geographic unit for which data on both race and income is obtained. SEA consulted with the Bureau of Census to determine whether census block group data were available for use in this Final EIS, but learned that this level of data will not be available until summer of 2002 or later.

Additionally, SEA recognizes that some counties and cities have developed their own estimates or projections of census type data. However, to conduct a valid environmental justice analysis, data for all affected census block groups, counties, and the state must be consistent. That is, all data must be developed using the same survey methodology and must be for the same sample period. It would not be appropriate for SEA to compare census data estimated or projected for the year 1999 with similar data projected for the year 1995. The only consistent data set available for the project area in this case is the 1990 census. While SEA recognizes that this data may be somewhat dated, it still provides the best available demographic information. Therefore, because no other appropriate data are available, SEA has conducted its additional environmental justice analysis using 1990 census data.

The final category of environmental justice comments suggested that ranchers and farmers should be considered low-income populations. SEA has identified low-income populations based on annual income levels reported to the Bureau of Census. These levels reflect annual income levels of individuals compared to national income levels and are independent of occupation. While SEA recognizes that ranchers and farmers are subject to low markets for agricultural goods, some ranchers and farmers prosper even in difficult economic times. SEA notes that its additional analysis using 1.5 times the poverty level increases the conservatism of the environmental justice analysis. Additionally, the national poverty level accounts for the cost of living throughout the country, including areas such as the east and west coasts where the cost of living is higher than in the Midwest. Using 1.5 times the national level, which is already a conservative level for South Dakota and Wyoming, results in the additional analysis likely being more inclusive of potential environmental justice communities than that conducted for the Draft EIS. Therefore, SEA has chosen not to arbitrarily classify any particular occupational group as having environmental justice status, but has utilized its past methodology, and that recommended by EPA, of finding low-come populations based on their incomes.

In conducting the additional analysis recommended by EPA, SEA first sought census data to determine the percentage of persons considered low-income (at or below 1.5 times the national poverty level) for South Dakota, Minnesota, and each census-block group crossed by the existing rail line. SEA determined that census data needed to complete this analysis was not available. After consultation with EPA, SEA evaluated the percentage of households for each state and census block group that would be considered low-income, instead of the number of individuals.

After calculating the percentage of low-income households for each census block group and the states, SEA multiplied the state percentage by 1.5 to obtain the level above which EPA recommended that census block groups be classified as having environmental justice status. Initial calculations showed South Dakota having a low-income household percentage of 38.4, and 31.0 percent of Minnesota households were low-income. Increasing these percentages by 1.5 times resulted in percentages of 57.6 and 46.5, respectively. Because South Dakota's percentage was more than 50 percent and SEA had initially considered census block groups with low-income populations of 50 percent or greater as environmental justice communities, SEA took the more conservative approach of using 50 percent or more of the census block group.

Because 1.5 times the Minnesota percentage was 46.5 percent, SEA classified census block groups with a percentage of low-income households of 46.5 percent or greater as environmental justice communities. Based on this analysis, SEA determined that 41 census block groups would meet the criteria for environmental justice communities. The 16 census block groups in South Dakota included one each in Brookings, Hughes, and Hyde counties, six in

Beadle County, four in Kingsbury County, and three in Hand County. The 25 census block groups in Minnesota included five each in Winona and Brown counties, three each in Steele, Lincoln, Lyon, and Redwood counties, one in Dodge County, and two in Waseca County.

SEA next calculated the minority population percentage for each state, multiplied it by 1.5, and compared it to the minority percentage for each census block group calculated for the Draft EIS analysis. Based on this comparison, SEA determined that one census block group in Minnesota met the criteria for environmental justice classification for minority populations. This census block group in Brown County also met the environmental justice criteria for low income.

Following identification of potential environmental justice communities, SEA did more analysis to determine whether these census block groups would be disproportionately affected by the proposed project. This was done according to the methodology discussed in the Draft EIS, Appendix D. SEA determined that eight census block groups in Minnesota and seven in South Dakota would potentially be subject to disproportionately high and adverse noise impacts (Appendix N). The Minnesota census block groups include one in Steele County, two each in Brown and Lyon counties, and three in Redwood County. The South Dakota groups include three in Kingsbury County, two in Hand County, and one each in Beadle and Hyde counties.

SEA also determined that 15 environmental justice communities would be subject to disproportionately high and adverse increases in accident frequencies at grade crossings. SEA identified four census block groups in Minnesota, including three in Brown County, and one in Lincoln County. Two of the Brown County census block groups would also likely experience disproportionately high and adverse impacts due to project-related increases in noise. In South Dakota, SEA identified 11 census block groups that would be subject to disproportionately high and adverse increases in accident frequencies at grade crossings. These include one in Brookings County (affected by two grade crossings), three in Beadle County (two affected by two grade crossings), one in Hyde County, one in Hand County (two grade crossings), one in Hughes County, and four in Kingsbury County (two affected by four grade crossings). SEA determined that seven of these – one in Brookings, four in Kingsbury, and two in Beadle County – would also experience disproportionately high and adverse impacts as a result of project-related increases in noise.

In Chapter 12, SEA presents recommended mitigation for project-related increases in noise, as well as a condition requiring that DM&E comply with its voluntary grade crossing mitigation plan, which SEA determined would provide improved safety at those grade crossings affecting environmental justice communities. These mitigation measures would minimize project-related impacts from noise and safety. While environmental justice communities would still

experience some level of impact, they would not be significant or disproportionate with SEA's recommended mitigation.

4.2 RAIL YARDS

In the Draft EIS, SEA evaluated eight new rail yards and interchange connections as part of the proposed rail line extension and rehabilitation of the existing rail line (Chapters 3 and 4 of the Draft EIS). Three rail yards would be in Minnesota, four (two yards and two interchanges) would be in South Dakota, and one rail yard would be in Wyoming.

As discussed in the Draft EIS, rail yard locations were selected and planned by DM&E to serve multiple functions, including crew changes, regular inspections, fueling, and maintenance needs. By planning for multiple functions, the overall number of yards, and the attendant environmental impacts, could be minimized. However, in order to minimize the number of yards and increase their functions, yard location must be based on the distance between yards. In this case, DM&E proposed yards located between 225 and 275 miles, or 7 hours, apart. DM&E's other considerations for a new yard location included communities and towns, environmentally sensitive areas such as wetlands and road crossings, topography, and the location of existing rail yards.

In light of these considerations, and the desire to have yards serve multiple functions to minimize the number of yards needed, few alternative locations were available for new yards. In the Draft EIS, SEA evaluated alternative locations for two – the Middle East Staging and Marshaling Yard in Minnesota and the West Staging and Marshaling Yard in Wyoming.

Of all the yards evaluated in the Draft EIS, SEA received comments for only three that required additional analysis – the East and the Middle East Staging and Marshaling Yards in Minnesota, and the Central Staging and Marshaling Yard in South Dakota. The following sections discuss comments about these rail yards, additional analysis conducted, and SEA's recommendations, as appropriate, for rail yards. Additional information on rail yards can be found in the Draft EIS (Chapters 3 and 4).

4.2.1 EAST STAGING AND MARSHALING YARD (LEWISTON)

The East Staging and Marshaling Yard would be approximately 600 feet wide and 2.1 miles long, located between Utica and Lewiston, Minnesota. DM&E presented no alternative locations for the East Staging and Marshaling Yard, also called the East or Lewiston Yard. Topographic constraints and the need to be close to the eastern end of DM&E's rail line were

factors in selecting locations for this yard. SEA conducted a detailed evaluation of the potential environmental impacts associated with construction and operation of a rail yard at this location in the Draft EIS.

SEA's evaluation of the Lewiston Yard included a wide range of environmental resources, including land use, water resources, soils, geology, noise, air emissions, transportation, safety, biological resources, cultural resources, and socioeconomics. However, comments on the Lewiston Yard were generally confined to geology and transportation. SEA conducted additional analysis in response to these comments, as discussed below.

4.2.1.1 Geology

In the Draft EIS, SEA indicated that the Lewiston Yard would be located over dolomite bedrock covered by an average of 10 to 16 inches of soil, but made no mention of sinkholes or other karst features which could affect rail yard construction in the Lewiston Yard area. Commenters indicated that geological formations similar to the karst and sinkholes in Olmsted County, Minnesota, and the potential problems they presented to rail line construction, also applied to the area of the Lewiston Yard, making the site unsuitable for a rail yard.

In response to these comments, SEA made additional site visits to the Lewiston Yard location and investigated its specific geological characteristics. SEA visually identified numerous sinkholes, which were readily identifiable because they generally consist of a circular area of natural vegetation, often with large trees, surrounded by crop fields. SEA also identified several sinkholes based on features shown on U.S.G.S. quadrangle maps, and confirmed that the proposed yard site is in an area classified as karst. As discussed in more detail in Chapter 9, karst areas have a sinkhole density of 20 to hundreds per square mile, and sinkholes are a dominant feature of the landscape. It appears that sinkhole formation was recently active in the area (see Appendix M), suggesting that even where sinkholes are not present today, they could develop in the future.

Based on further analysis of karst issues, it appears that the presence of karst at DM&E's proposed Lewiston Yard site could complicate construction and operation of a rail yard. To build a yard at its proposed site, DM&E would need to undertake appropriate engineering and operation measures to mitigate the risk of sinkholes at this site, perform detailed geotechnical investigations of the soil and underlying rock formations, and perform careful monitoring for subsidence in the future for the life of the yard, which would be extremely costly.

Unlike the Rochester bypass proposal, which would also be located around karst features, it may be feasible to adjust the location of the Lewiston Yard to avoid karst topography.[4] To the east, the topography is more varied and the existing rail line closely follows local drainages, including Garvin Brook. Construction of a rail yard in this location would require extensive earthmoving activities and would likely have substantial effects on surface waters and wetlands. However, moving the yard site slightly west, to the area between Utica and St. Charles, Minnesota would place it in an area with a lower probability of sinkholes and over areas of shale. In addition, based on the available information, it appears that a rail yard slightly adjusted to the west would have impacts similar in nature and extent to those of the currently proposed site. In short, SEA believes that a slightly modified location to the west would minimize karst-related impacts and would not result in potentially significant impacts in the other environmental resource areas.

4.2.1.2 Transportation

SEA recognized in the Draft EIS that construction of the Lewiston Yard would affect one roadway, Township Road 13. The rail yard would cross this road, which, as discussed in the Draft EIS, would require rerouting or closure as it would not be able to cross through the rail yard. SEA indicated that rerouting or closure of Township Road 13 would reduce access through this area and increase traffic on other local roadways providing alternate access.

Commenters on the Draft EIS indicated that construction and operation of the Lewiston Yard would cut off access to farm fields, particularly for two farm families who currently live south of the existing rail line, and farm land on both the north and south sides of the rail line. Construction of the yard would require them to drive farm equipment around the yard and along State Highway 14, the primary east-west thoroughfare across southern Minnesota, to access fields on the north side of the rail line. This would reduce farm efficiencies by increasing travel time to reach fields, and fuel costs, as well as posing a potential safety hazard to farmers and motorists from operation of large, slow-moving farm equipment on Highway 14.

[4] In analyzing the proposed 34.1-mile Rochester bypass, SEA determined that the mitigation that would be needed to construct and operate the proposed bypass could itself have potentially significant impacts by essentially creating an underground "dam" or concrete wall under the rail line. In contrast, the environmental impacts associated with mitigating the Lewiston Yard likely would be far less severe simply because the areas affected would not be nearly as long.

While SEA did not specifically mention these impacts in the discussion of the Lewiston Yard in the Draft EIS, SEA discussed repeatedly throughout the Draft EIS impacts similar to those raised by commenters. SEA concurs with the commenters that construction and operation of the Lewiston Yard would reduce access through the area, causing farmers to drive greater distances to access fields and use a high-traffic roadway in the process, creating potential safety hazards to themselves and other motorists.

During its additional site visits, SEA identified equipment crossings along the existing DM&E rail line where the Lewiston Yard would be located. While not suitable for passage of a vehicle, they currently allow passage of farm equipment over the rail line to access fields on the opposite side of the track. SEA realizes that it would not be possible to retain such crossings because many new rail lines would run parallel to the existing line, and agrees that reductions in access could create hazardous conditions on high-traffic local roadways. Therefore, SEA has developed recommended mitigation to facilitate continued access to fields isolated by rail yard construction (see Chapter 12). While farmers may experience reduced efficiencies due to increased travel times and fuel use, SEA's recommended mitigation would minimize potential safety concerns.

4.2.1.3 Agricultural Land Use

The Minnesota Department of Agriculture commented that lands at the Lewiston Yard site are enrolled in the Minnesota Agricultural Land Preservation Program, under state statute 40A.01 (discussed in detail the Draft EIS in Chapter 3). Lands are enrolled for eight year terms. Enrollment in this program can be terminated only for emergencies or under executive order of the governor. Should eminent domain be required for DM&E to acquire lands enrolled in this program for construction of the Lewiston Yard, acquisition would be subject to review by the environmental quality board. The environmental quality board could suspend eminent domain for up to one year if it determines that the proposed action is not compatible with the goals of the program and there are other feasible alternatives. The Lewiston Yard may not be considered compatible with the goals of the program if DM&E were to use eminent domain to acquire land for the Lewiston Yard enrolled in the Agricultural Land Preservation Program, acquisition could be held up for some time.

4.2.1.4 SEA's Recommendation

Based on its analysis in the Draft and Final EIS, SEA has determined that the proposed Lewiston Yard would require extensive engineering measures, geotechnical investigation, and

careful monitoring for the life of the yard. It appears that DM&E could avoid karst-related impacts by slightly adjusting the proposed location of the Lewiston Yard to the west.

4.2.2 MIDDLE EAST STAGING AND MARSHALING YARD (MANKATO)

The Middle East Staging and Marshaling Yard proposed by DM&E, also known as the Middle East or Mankato Yard, would serve as a staging yard for empty and loaded trains and marshaling yard for grain, manifest, and way freights; a point of interchange with UP and CP; a locomotive fueling and maintenance facility; a location for storage of maintenance of way equipment; and a base for train crews working between Utica and Winona, Minnesota. The following sections discuss alternatives SEA considered for this rail yard, a comparison of the impacts of the two alternatives based on comments on SEA's analysis in the Draft EIS, and SEA's recommendation for a preferred location for the Middle East Yard.

SEA considered two alternatives for the Middle East Yard, designated as Option A and Option B in the Draft EIS. Option A would be about 400 feet wide and 2.4 miles long, located along the existing DM&E rail line between Minneopa State Park and Judson, Minnesota where the existing rail line runs along County Route 68. Option B would be 400 feet wide and 2.3 miles long, along the existing DM&E rail line adjacent to Shag Road, east of New Ulm, Minnesota. These alternative locations are approximately 10 miles apart.

SEA's detailed evaluation of the Middle East Yard alternatives for the Draft EIS analyzed potential impacts of construction and operation at each proposed yard location on environmental resources including land use, water resources, soils, geology, noise, air emissions, transportation, safety, biological and cultural resources, and socioeconomics. SEA determined that impacts on many of these resources would be similar for both rail yards because of their similar size, the characteristics of their locations, and operations. However, there are differences between the two options in terms of land use (including public lands and agricultural land) and wetlands.

SEA indicated in the Draft EIS that Option B would be environmentally preferred, based on its avoidance of the Minneopa State Park area, an important resource for citizens in and around Mankato. SEA stated that while the impacts on Minneopa State Park from Option A would be difficult to mitigate, the wetlands losses estimated for Option B could be mitigated under the Clean Water Act, Section 404 permit process. Greater impacts to agricultural land, including prime farmland, were not considered significant due to the extensive amount of prime farmland in Brown County. Additionally, Option B did not appear to create any significant operational difficulties that would affect the overall project's purpose of creating an efficient route for transport of PRB coal.

Comments on the Middle East Yard focused on three primary topics: Minneopa State Park, water resources and access. SEA's additional investigation of these issues is presented below.

4.2.2.1 Minneopa State Park

Commenters on Option A, including Minnesota DNR, expressed concern that a new rail yard between Minneopa State Park and Judson would produce significant impacts on Minneopa State Park and limit its potential for expansion. As discussed in the Draft EIS, the proposed location for the Middle East Yard is not within the present boundaries of Minneopa State Park. However, it would be within the statutory boundary of the park, including those lands approved by the Minnesota legislature for acquisition to expand the park. Commenters supported SEA's discussion in the Draft EIS that Minneopa State Park is an important resource to the area, noting its heavy use, and pointed out its planned expansion. They also indicated that construction of the Middle East Yard at Option A would reduce both the land available for park expansion and the area's desirability as a state park. Increased levels of rail activity associated with Option A would also reduce the quality of the recreational experience within the existing state park.

In preparing this Final EIS, SEA made additional site visits to Minneopa State Park and the Option A site, but does not believe that the Option A site would significantly affect users of the existing Minneopa State Park area. First, the rail yard would be at a distance from the park, and second, it would be in the flood plain, while the state park is on a wooded bluff approximately 100 feet above and screened from the flood plain. However, SEA reaffirms its position in the Draft EIS that Minneopa State Park is an important regional resource, particularly for citizens in and around Mankato. High use of the area and the potential for acquisition of lands adjoining the existing park make its expansion a reasonably foreseeable event. Construction of the Option A rail yard would limit the ability of the state to acquire lands contiguous with existing state park lands that would provide the quality recreational experience currently provided by existing park lands.

4.2.2.2 Water Resources

SEA recognized in the Draft EIS that Middle East Yard Option B would affect more wetlands than Option A, 14.2 acres versus 3.7 acres. However, Option A would affect more types of wetlands – including emergent, scrub/shrub, and forested – than Option B, which would only affect emergent and scrub/shrub wetlands. Option A would also potentially have a greater impact on water resources than would Option B, since it would likely require relocation or channelization of five intermittent streams, compared to one for Option B. As explained in the

Draft EIS, SEA determined that loss of wetlands could be mitigated, preventing long-term reduction in the area of wetlands affected by construction of the Middle East Yard.

Commenters on the Draft EIS, including EPA and Minnesota DNR, expressed concerns about impacts of the rail yards on water resources. Both agencies noted, as had SEA in the Draft EIS, that Option B would result in the loss of more wetlands than Option A. But Minnesota DNR also asserted that the intermittent stream noted in the Draft EIS for Option B was actually a perennial stream prone to flooding. EPA stated its belief that Option A appeared to be the practicable alternative least damaging to wetlands.

When SEA visited the Option B site again in May of 2001, the stream running through the rail yard site was flowing, and there was evidence of recent overflow. Rainfall and high water prior to SEA's visit made it difficult to determine whether the stream is intermittent (as shown on U.S.G.S. quadrangle maps) or perennial (as stated by Minnesota DNR). However, the Option B area did appear to contain more wetlands, many apparently the result of drainage and flooding of the local stream.

Therefore, SEA agrees with EPA that the Option B yard site would have greater impacts on wetlands. However, Section 404 (b)(1) of the Clean Water Act provides the COE some flexibility in selecting an alternative to the one having the least wetlands impact. Specifically, Section 404 (b)(1) states:

> Except as provided under § 404 (b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.[5]

Based on all the available information on the Middle East Yard, SEA believes that both alternatives appear to be practicable. Option A would affect fewer wetlands acres, but would have potentially significant impacts on Minneopa State Park and require relocation and channelization of five streams as opposed to one for Option B. Option A would also affect about 0.9 acres of wooded wetlands, which are generally more difficult to mitigate than emergent or scrub/shrub wetlands.

[5] 40 CFR 230.10(a).

Because the existing rail line would be a barrier between Option B and the Minnesota River, it would help prevent construction runoff and sedimentation into the river. Conversely, Option A would be constructed on the river side of the existing rail line, so that drainage would be away from the tracks and into the river. Thus, while Option A would have fewer impacts specifically on wetland acreage, it would have other impacts on aquatic resources such as streams and the Minnesota River. However, these impacts, and the wetlands impacts of either option, could be mitigated through the Clean Water Act, Section 404 permit process, resulting in no significant long-term differences in the impacts of the two alternatives on aquatic resources.

4.2.2.3 Transportation Access

In the Draft EIS, SEA noted that Option A would cross two roads, both with average daily traffic (ADT) levels estimated at less than or equal to 100 vehicles per day, while Option B would cross only one road (Township Road 97 or Shag Road) with an ADT of less than or equal to 100. SEA indicated that construction and operation of rail yards across these roads would result in reduced access and delays, but that these roads could be closed or rerouted.

Several commenters expressed concerns about reduced access to residences along Shag Road if Option B were constructed, indicating that closure where Shag Road crosses the rail line would allow access to the area from only one direction. They also noted that the remaining access at the other end of Shag Road would also cross the existing line at the western end of the Option B rail yard. They believe that proximity of this single access point to the rail yard increases the likelihood that the crossing would be blocked, thereby delaying residents and emergency vehicles needing access to homes along Shag Road.

SEA recognizes that access across Shag Road could be reduced more often than at other roads crossing the existing rail line because of the slower speeds – substantially less than the 45 and 49 miles per hour contemplated for the project as a whole – of trains entering and leaving the yard. Train speeds could increase the blocked crossing time and potential vehicle delay. While access to residences along Shag Road would be maintained, it could be substantially reduced.

In addition, SEA recognizes that the Option B Middle East Yard would be confined to the area between the two existing crossings of the existing rail line and Shag Road. In contrast to Option A, where the road would cross the center of the rail yard, Option B would cross Shag Road near the end of the rail yard where only the existing rail line and one or two rail sidings would be traversed. It seems possible that the yard crossing of Shag Road could be maintained, but if not, minor relocation of Shag Road or redesign of the rail yard could also allow continued

access for Shag Road across the existing rail line. Therefore, SEA has included recommended mitigation in Chapter 12 designed to preserve access at both ends of Shag Road.

4.2.2.4 SEA's Recommendation

In considering a preferred alternative for the Middle East Yard, SEA generally reaffirms its conclusions in the Draft EIS. The primary differences between the Middle East Yard alternatives are the loss of wetlands and potential state park lands. As discussed in the Draft EIS and above, both alternatives would affect water resources: Option B would impact more wetland acres while Option A would have greater impact on drainages and types of wetlands. However, SEA believes that these impacts could be reasonably mitigated as part of the Clean Water Act, Section 404 permit process, resulting in no significant long-term differences in the impacts of the two alternatives.

The remaining difference, removal of lands identified for expansion of the Minneopa State Park, would only occur as part of Option A. Moreover, these lands could not be replaced, since their value to the state park system is directly related to their proximity to existing state park lands. Construction of a rail yard at the Option A location would not only remove the 116.4 acres from potential development as state park lands but could also make adjacent lands unsuitable for recreational development due to the noise and safety concerns associated with an operating rail yard. Therefore, SEA retains its position in the Draft EIS, supported by Minnesota DNR, that Option B for the Middle East Yard is the environmentally preferred alternative.

4.2.3 CENTRAL STAGING AND MARSHALING YARD

Although SEA evaluated three locations for the Central Staging and Marshaling Yard (Central Yard), they were not considered alternatives, since each location would be determined by which Extension Alternative is selected (discussed in Chapter 3), if any. SEA evaluated the potential impacts of each rail yard upon a variety of natural and human resources, including land use, wetlands, vegetation, wildlife, cultural resources, noise, air quality, and socioeconomics.

SEA received few criticisms of the Central Yard, but numerous letters and petitions in general support of the proposed project and rail yard. Commenters indicated that the Central Yard location near Huron, South Dakota would provide needed economic benefits such as jobs and tax revenues. The only other comments specific to the Central Yard were that the location of the rail yard for Extension Alternative C, west of Huron, would cross a USFWS wetlands easement. The commenter acknowledged SEA's indication that the Extension Alternative B yard location east of Huron would also cross a USFWS easement.

Although SEA indicated in the Draft EIS that the Central Yard for Alternative C would affect approximately 55.9 acres of wetlands, it did not specifically state that these wetlands were part of a USFWS wetland easement. SEA reported in Chapter 4 of the Draft EIS that there were USFWS wetlands easements along the existing rail line in Beadle County. Therefore, SEA concurs with the commenter that the Alternative C rail yard would cross a USFWS wetlands easement. Because SEA recognized the potential for the proposed project, particularly the rail yards, to affect wetlands easements, it included recommended mitigation in the Draft EIS to minimize the impacts on them. Based on its review of the public comments and the analysis in the Draft EIS, SEA determined that the conclusions in the Draft EIS remain accurate, and SEA retains the recommended mitigation in Chapter 12 of this Final EIS.

4.3 SIDINGS

As part of the proposed PRB Expansion Project, DM&E would construct many new sidings along its existing rail line. Although some comments on the Draft EIS suggested that SEA had not considered the construction and operation of these sidings as part of its analysis for the Draft EIS, they were discussed in detail in Chapters 1 and 2. In addition, Tables 2-6 to 2-8 of the Draft EIS described the proposed locations for sidings necessary for the rail line Extension Alternatives.

SEA determined that constructing new sidings would disturb the existing right-of-way during installation of new ties, rail, and ballast. Furthermore, as explained in the Draft EIS, DM&E indicated that about 20 percent (120 miles) of the existing rail bed requires earthwork to improve its condition and stability for operation of unit coal trains, which would cause additional disturbance. Because the precise location of rail bed reconstruction could not be identified and sidings would be constructed at points along the entire rail line, SEA estimated that the entire existing right-of-way would be disturbed by reconstruction. While this will not likely be the case, SEA's analysis used this conservative assumption, thus probably overstating actual impacts.

During operation of the rail line, the locations of sidings could affect vehicle delay and safety at locations where a siding crossed a roadway. As explained in the Draft EIS (Chapters 3 and 4), SEA evaluated the potential vehicle delay and accident frequencies to be expected from the siding layouts for each of the Extension Alternatives due to variations in the actual locations of these sidings and the roadways they would cross.

Other commenters indicated that it was difficult to determine the location of sidings since their locations were described by rail line milepost. Because persons not associated with railroads are unfamiliar with milepost locations along the rail line, commenters requested that SEA provide

additional maps or figures illustrating the locations of proposed sidings. SEA has therefore included in Appendix J of this Final EIS, a list of proposed siding locations and maps of the existing DM&E rail line with milepost notations every five miles along the rail line.

Summary of Conclusions

For the reasons discussed earlier in this chapter, SEA recommends that if the Board should approve DM&E's proposal, the Action Alternative (consisting of rehabilitating DM&E's existing line) is preferable. SEA also recommends Option B for the Middle East Yard.

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